TABLE 2-continued

Relationship between baseline bit error rate (BER) and distance

Transmit Power (mA)	Maximum Range (inches)	BER @ 75% of range	BER @ 25% of range
60	34	8.0e−8 (25.5 in)	0.0e−0 (8.5 in)
110	44	4.2e−1 (33.0 in)	0.0e−0 (11.0 in)

When the transmitter was operated at the maximum power of 110 mA, at seventy-five percent of the full range, a substantial amount of bit errors were noticed. The bit errors were typically sporadic but in large groups.

Two separate tests were performed to test bit error rates when the transmitter and receivers were moving with respect to each other. Both the transmitter and receiver were operating at seventy-five percent of their maximum range. The first test investigated angular changes. When holding one end still and rotating the other end along three axes (yaw, pitch and roll), no significant bit errors occurred as long as rotation was less than +/−45 percent of the perfectly aligned orientation. The second test investigated changes in distance. The test was performed by maintaining the angular orientation fixed as the units were moved closer and farther apart at various rates. If the distance moved exceeded twenty percent of the maximum range, bit error were produced.

When at maximum power and distance (that is, 110 mA and 44 inches, respectively), standing between the units had no impact on the range (no bit errors were introduced). The signal was essentially going through or around an adult male chest. When at 7.5 mA and a distance of eighteen inches, that maximum distance for that power, pressing the transmit and receive units against an adult male chest and waist had no impact on the range, i.e. no bit errors were introduced.

The transmitter and receiver were also attached to different human bodies about eighteen inches apart and pressed against a large metal object such as a trash dumpster. No bit errors were introduced.

A measurement of current draw was also performed at the various transmit power levels. The results of the measurements are shown in Table 3. It should be noted that power draw was 200 uA in the receive mode.

TABLE 3

Relationship between board supply current and Transmit Power

Transmit Power (mA)	Board Supply Current (mA)
7.5	6.6
60	35
110	70
<standby>	2 uA

Those skilled in the art will appreciate that various adaptations and modifications of the above-described embodiments of the present invention can be configured without departing from the scope and spirit of the present invention. For example, magnetic induction coils of the present invention need not be located around an individual's waist. For example, in at least one embodiment of the invention, the magnetic induction coils **515** and **615** are preferably armbands, leg bands, shoulder bands, or neckbands. In addition, magnetic induction coils **515**, **615** may be separate accessories or may be attached to or integrated with a garment.

In view of the foregoing, it is to be understood that, within the scope of the appended claims, the invention may be practiced and constructed other than as specifically described herein.

We claim:

1. A magnetic induction data transmission network, comprising:

a master hub;

at least one sensor node communicatively coupled to said master hub to allow said master hub and said at least one sensor node to receive and transmit data;

a magnetic induction coil adapted to be worn about a bodypart of a subject, said magnetic induction coil being connected to said master hub to allow said data reception and transmission, said magnetic induction coil including N turns where N>2 and the first end of the Nth turn is connected to the N−1th receptacle pin and the second end of the Nth turn is connected to the Nth plug pin ;

a connector residing at a transection point of said magnetic induction coil, said connector serving as an intermediary between said coil and said hub, said connector including a plug terminal including a set of plug pins and a receptacle terminal including a set of receptacle pins wherein each of said plug pins corresponds to a receptacle pin.

2. The data transmission network of claim **1** wherein the first end of the first turn is connected to said master hub and the second end of the first turn is connected to the first receptacle.

3. The data transmission network of claim **2** wherein the Nth receptacle is connected to said master hub.

4. The data transmission network of claim **1**, wherein said magnetic induction coil has a diameter greater than about eight inches.

5. The data transmission network of claim **1**, wherein said magnetic induction coil has a diameter between about eight inches and about fifteen inches.

6. The data transmission network of claim **1**, wherein said master hub includes a magnetic induction transceiver.

7. The data transmission network of claim **1**, wherein said at least one sensor node includes a magnetic induction transceiver.

8. The data transmission network of claim **1**, wherein said at least one sensor node and said magnetic induction coil are misaligned by an angle of plus or minus forty-five degrees.

9. The data transmission network of claim **1**, wherein said magnetic induction coil includes at least one wire forming at least one revolution around an individual's waist.

10. The data transmission network of claim **1** wherein said at least one sensor node includes a physiological sensor.

11. A magnetic induction coil adapted to fit a bodypart of an individual comprising N coil turns where N>2, the N−1 coil turn being adjacent to and parallel with the Nth coil turn, the coil being transected at a transaction point and a connector coupled to said coil turns to interconnect said coil turns, said connector including a plug terminal having a set of N plug pins and a receptacle terminal including a set of N receptacle pins, each coil turn includes first and second ends and the first end of the Nth turn is connected to the N−1th receptacle pin and the second end of the Nth turn is connected to the Nth plug pin.

12. The magnetic induction coil of claim **11** wherein the first end of the first coil turn is adapted to connect to a hub and the second end of the first turn is connected to a first receptacle pin.

13. The magnetic induction coil of claim **11** wherein the Nth receptacle is adapted to be connected to a hub.

14. The magnetic induction coil of claim **11**, said coil comprises a spirally wound wire.

15. The magnetic induction coil of claim **11**, wherein said coil comprises a loop of a single layer of wires.

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